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Produktinformation



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Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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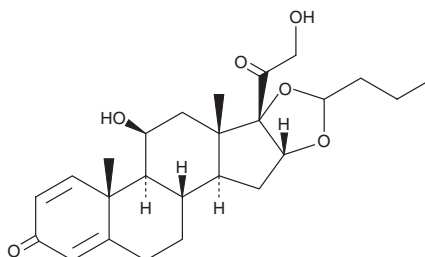
PRODUCT INFORMATION



Budesonide

Item No. 15407

CAS Registry No.: 51333-22-3
Formal Name: 16 α ,17-[butylidenebis(oxy)]-11 β ,21-dihydroxy-pregna-1,4-diene-3,20-dione
MF: C₂₅H₃₄O₆
FW: 430.5
Purity: \geq 95%
UV/Vis.: λ_{max} : 243 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: \geq 2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Budesonide is supplied as a crystalline solid. A stock solution may be made by dissolving the budesonide in the solvent of choice, which should be purged with an inert gas. Budesonide is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of budesonide in these solvents is approximately 10, 25, 20 mg/ml, respectively.

Budesonide is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, budesonide should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Budesonide has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Budesonide is a glucocorticoid and an agonist of glucocorticoid receptors ($EC_{50} = 45.7$ pM in a transactivation assay).¹ It is selective for glucocorticoid over mineralocorticoid receptors ($EC_{50} = 7,620$ pM). Budesonide inhibits LPS-induced TNF- α release from human peripheral blood mononuclear cells (PBMCs; $IC_{50} = 0.96$ nM).² It reduces levels of IL-1 β and eotaxin in the lungs and the number of eosinophils and neutrophils in bronchoalveolar lavage fluid (BALF) in a rat model of ovalbumin-induced airway inflammation when administered at a dose of 3 mg/kg.³ Intracolonic administration of budesonide decreases colon wet weight and colonic myeloperoxidase (MPO) activity in a rat model of oxazolone-induced colitis.⁴ Formulations containing budesonide have been used in the treatment of Crohn's disease, ulcerative colitis, allergic rhinitis, and asthma.

References

1. Grossmann, C., Scholz, T., Rochel, M., *et al.* Transactivation via the human glucocorticoid and mineralocorticoid receptor by therapeutically used steroids in CV-1 cells: A comparison of their glucocorticoid and mineralocorticoid properties. *Eur. J. Endocrinol.* **151**(3), 397-406 (2004).
2. Millan, D.S., Ballard, S.A., Chunn, S., *et al.* Design and synthesis of long acting inhaled corticosteroids for the treatment of asthma. *Bioorg. Med. Chem. Lett.* **21**(19), 5826-5830 (2011).
2. Schwartze, J.T., Becker, S., Sakkas, E., *et al.* Glucocorticoids recruit Tgfbr3 and Smad1 to shift transforming growth factor- β signaling from the Tgfbr1/Smad2/3 axis to the Acvrl1/Smad1 axis in lung fibroblasts. *J. Biol. Chem.* (2013).
4. Ekström, G.M. Oxazolone-induced colitis in rats: effects of budesonide, cyclosporin A, and 5-aminosalicylic acid. *Scand. J. Gastroenterol.* **33**(2), 174-179 (1998).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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